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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/015,679

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Yong Sung Ham

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EXAMINER

BELL, PAUL A

ART UNIT

PAPER NUMBER

2675

8

DATE MAILED: 05/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/015,679

Applicant(s)

HAM, YONG SUNG

Examiner

PAUL A BELL

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2004.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-14 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2 and 4.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 1 rejected under 35 U.S.C. 102(b) as being anticipated by Stanek (6,046,754).

With regard to claim 1, Stanek teaches a liquid crystal display device (figure 2a, item 20), comprising: a liquid crystal display panel displaying an image (figure 2a, item 20); and a light shutter on the liquid crystal display to transmit or shut off a light emitted from the liquid crystal display panel (figure 2a, 200, and column 4, lines 35-57 "very broad claim").

3. Claims 1-7, 12-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Eichenlaub (6,5906,05).

With regard to claim 1, Eichenlaub teaches a liquid crystal display device (figure 1), comprising: a liquid crystal display panel displaying an image (figure 1, item 15, column 3, lines 1-6); and a light shutter on the liquid crystal display to

transmit or shut off a light emitted from the liquid crystal display panel (figure 1, item 35, and column 3, lines 30-53).

With regard to claim 2, Eichenlaub teaches a liquid crystal display device according to claim 1, wherein the light shutter includes, a liquid crystal between two glass substrates (figure 1, items 36 and 37), and a plurality of electrodes on the two glass substrates to drive the liquid crystal (inherent feature there are at least two electrodes one each side or it would not work as a shutter column 3 "voltage is applied").

With regard to claim 3, Eichenlaub teaches the liquid crystal display device according to claim 1, wherein the light shutter have a polarizer to transmit a linearly polarized light (figure 1, item 20).

With regard to claim 4, Eichenlaub teaches the liquid crystal display device according to claim 1, wherein the liquid crystal display panel and the light shutter are bonded with each other and have a polarizer there between (figure 1, item 27).

With regard to claim 5, Eichenlaub teaches the liquid crystal display device according to claim 1, wherein the liquid crystal display panel and the light shutter are bonded to a single glass substrate (figure 1, items 18 and 36 "broad claim").

With regard to claim 6, Eichenlaub teaches the liquid crystal display device according to claim 1, further comprising a backlight irradiating a light toward the liquid crystal display panel (figure 1, item 11).

With regard to claim 7, Eichenlaub was found above to teach most of the limitations the applicant is in addition now claiming a "a controller generating a shutter control signal to open or close the light shutter" and "a light shutter driver responding to the shutter control signal to drive the light shutter". The "controller" and "driver" as broadly claimed are inherent to the Eichenlaub because his apparatus performs those functions and controller and driver would be essential to do this.

With regard to claim 12, Eichenlaub teaches the apparatus according to claim 7, wherein the shutter control signal has a first logical value in an initial field interval when video data are applied to the liquid crystal display panel and has a second logical value in a time interval when the video data are maintained at the liquid crystal display panel (column 3, lines 30-53 teaches that data is put on LCD item 16 and no voltage "first logical value" is put on shutter item 38 and then a voltage is applied "second logical value" to shutter item 38).

With regard to claim 13 Eichenlaub teaches a method of driving a liquid crystal display having a light shutter on a liquid crystal display panel (figure 1, items 15 and 35 column 3, lines 1-6, 30-35), comprising: supplying video data to a liquid crystal display panel; and opening the light shutter at an initial interval applying the video data and closing the light shutter in a maintenance interval maintaining the video data to shut off a light from the liquid crystal display panel. (column 3, lines 30-53 teaches that data is put on LCD item 16, "initial interval", and no voltage "first logical value" is put on shutter item 38 and then a voltage is applied, "second logical value" to shutter item 38 "maintenance interval").

With regard to claim 14 Eichenlaub teaches the method according to claim 13, further comprising: applying a shutter control signal having a first logical value in an initial field interval when the video data are applied to the liquid crystal display panel, and a second logical value in a time interval when the video data are maintained at the liquid crystal display panel (column 3, lines 30-53 teaches that data is put on LCD item 16, "initial interval", and no voltage "first logical value" is put on shutter item 38 and then a voltage is applied, "second logical value" to shutter item 38 "maintenance interval").

4. Claims 7-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Tabata et al. (6417895).

With regard to claim 7 Tabata et al teaches an apparatus for driving a liquid crystal display, comprising:
a liquid crystal display panel displaying an image (figure 1, item 3); a light shutter on the liquid crystal display to transmit or shut off a light emitted from the liquid crystal display panel (figure 1, item 4); a controller generating a shutter control signal to open or close the light shutter (figure 1, item 8); and a light shutter driver responding to the shutter control signal to drive the light shutter (figure 1, items 8 and 4).

With regard to claim 8 Tabata teaches the apparatus according to claim 7, wherein the shutter control signal has an inverse polarity after video data having an inverse polarity are applied to the liquid crystal display panel (column 5, lines 20-35).

With regard to claim 9 Tabata teaches the apparatus according to claim 7, wherein the shutter control signal is a pulse signal having a first logical value turning on the light shutter and a second logical value turning off the light shutter (figure 1, item 8, inherent feature of Tabata because his shutter has two positions it must have a first and a second logical value causing each change).

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With regard to claim 10 Tabata teaches the apparatus according to claim 7, further comprising, a data driver connected to a plurality of data lines of the liquid crystal display panel to apply video data to the data lines, and a gate driver connected to a plurality of gate lines of the liquid crystal display panel to apply a scanning signal to the gate lines (figure 1, items 7 and 3).

With regard to claim 11 Tabata teaches the apparatus according to claim 10, wherein the data driver is connected to the controller that generates the video data and a dot clock and controls the data driver, and the gate driver is connected to the controller that generates a gate start pulse allowing the scanning signal to be sequentially generated and controls the gate driver (figure 1, item 3, theses are all inherent feature of a common matrix LCD as shown) .

5. Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by Mosley (5,583,674).

With regard to claim 13 Mosley teaches a method of driving a liquid crystal display having a light shutter on a liquid crystal display panel (figure 2, items 20 and 13), comprising: supplying video data to a liquid crystal display panel (figure 2, "CONTROL"); and opening the light shutter at an initial interval applying the video data (figure 2, "SWITCH CONTROL") and closing the light shutter in a maintenance

interval maintaining the video data to shut off a light from the liquid crystal display panel (figure 2, item 23).

Response to Arguments

6. Applicant's arguments filed 3/4/2004 have been fully considered but they are not persuasive.

With regard to claim 1 the applicant argues on page 2 that Stanek does not teach or suggest the claim limitation "a light shutter **on the** liquid crystal **display** to transmit **or** **shut off a light emitted from the** liquid crystal **display panel**." .

The examiner disagrees because this is simply very broad structural and functional language. Stanek clearly shows a structure arrangement in figure 2A which reads on a reasonable broad interpretation of claim language also see column 4, line 35 "where the shutter device 200 is integral with at least a portion of the portable computer". Also see column 1 where Stanek defines the problem his shutter solves; "highly confidential information is often stored on the computer"....When computers are used in public places, the user is at risk of others reading the material displayed on the screen.....Since highly confidential information may be on the computer screen, this is problematic for the computer user."

With regard to claims 1 , 7 and 13 the applicant argues on page 3 that Eichenlaub does not teach or suggest the claim limitation "a light shutter on the liquid crystal display to **transmit or** shut off a light emitted from the liquid crystal display panel." (note use of alternative "or").

The examiner disagrees because this is simply very broad structural and functional language. Eichenlaub clearly shows a structure arrangement in figures 1 and 2 items 35, 38 and 32 which reads on a reasonable broad interpretation of claim language also see column 3, "**When** no voltage is applied across the second liquid crystal layer 38, **light simply passes through it** and through the polarized strips 32 of the second polarizing sheet 27, **and on through the first liquid crystal layer** 16.....When voltage is applied across the second liquid crystal layer 38, the polarization direction of the **light** passing through it changes by 90 degrees, and **is blocked** by the polarizing strips 32". It is also not clear why applicant even argues this point in view of the alternative "or" phrase in claim.

With regard to claim 7 the applicant argues on page 3 that Tabata et al. does not teach or suggest the claim limitation "a light shutter on the liquid crystal display to **transmit or** shut off a light emitted from the liquid crystal display panel."

The examiner disagrees because this is simply very broad structural and functional language. Tabata et al. clearly shows a structure arrangement in figure 1 which reads on a reasonable broad interpretation of claim language. Also see column 1; "an image display device for **switching the direction** of polarization in which light coming from a display element is polarized so as **to increase the number of apparent pixels**". To summarize as a result of the eye integrating, the eye sees twice the number of actual pixels, but what actually happens is that as a result of the shuttering effect of item 4, that for a instant in time the eye sees a pixel in one position and in the next instant in time the eye sees the same exact pixel but at a different position he is

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effectively **blocked** from seeing the light from the pixel from the previous position and this read on the claim.

With regard to claim 13 the applicant argues on page 4 and 5 that Mosley does not teach or suggest the claim limitation "**opening the light shutter** at initial interval applying the video data **and closing the light shutter** in a maintenance interval" .

The examiner disagrees because this is simply very broad structural and functional language. Mosley clearly shows a shutter arrangement in figure 2 items 20 and 13. The applicant also argues on page 4 with reference to Mosley that "shutter 20 is operated **to switch** the polarization of **light** incident on a lens 15 **between a first state** in which the **light is** essentially **perpendicular to** the orientation of a liquid crystal **director** in a non-electrode region to **a second state** in which the **light is** essentially **parallel to** the liquid crystal **director** in the non-electrode region". In view of applicants above statement, it is not clear why applicant states "Mosley teaches constant transmission of light through shutter 20", because when light rays are parallel to director, light is transmitted and when light rays are perpendicular to director light is blocked.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Bell whose telephone number is (703) 306-3019.

If attempts to reach the examiner by telephone are unsuccessful the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377 can help with any inquiry of a general nature or relating to the status of this application.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or Faxed to: (703) 872-9306

Or Hand-delivered to: Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor
(Receptionist).



Paul Bell

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May 10, 2004



CHANH NGUYEN
PRIMARY EXAMINER